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Investigation on Microorganisms and their Degradation Efficiency in Paper and Pulp Mill Effluent

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ABSTRACT

Paper and pulp mill is a source of major pollution generating industry leaving huge amount of intensely colored effluent to the receiving end. Rapid increase of population and the increased demand for industrial establishments to meet human needs have created problems such as over exploitation of available resources, increased pollution taking place on land, air and water environment. The intention of this research paper is to identify predominant bacteria and fungi in paper and pulp mill effluent in addition to evaluate the degradation efficiency of individual isolates and combination of isolates. Treatment efficiency of individual isolates and combination of isolates are evaluated by shake flask method. Combination of *Pseudomonas Alkaligenes*, *Bacillus subtilis* along with *Trichoderma reesei* shows higher BOD, COD reduction of 99% and 85% respectively. As individual isolates *Pseudomonas Alkaligenes* show 92% BOD reduction and 77% COD reduction over other bacterial isolates and *Trichoderma reesei* removed 99% BOD and 80% COD respectively.

KEYWORDS

Water Resource and Protection, Microorganisms, Degradation, Bacteria, Fungi, BOD, COD, Treatment Efficiency

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